ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN
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Österreichisches Institut für Verpackungswesen

LICENCE

for designs of packagings for the carriage of dangerous goods

Licence No.:

9006

Date: 2022-06-10

Designs: **4GV/4G** Fibreboard Boxes

Applicant: Mondi Wellpappe Ansbach GmbH
Corrugated Packaging

Robert-Bosch-Straße 3
D 91522 Ansbach

LICENCE FOR DESIGNS OF PACKAGINGS FOR THE CARRIAGE OF DANGEROUS GOODS

1 Legal Basis

Dangerous Goods Carriage Law - Federal Law Gazette I No. 145/1998 in the version of Federal Law Gazette I No. 47/2018

Roads with public traffic:
Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), Federal Law Gazette No. 522/1973, in the version of Federal Law Gazette III No. 21/2021

Railroad:
Convention concerning International Carriage by Rail (COTIF), Federal Law Gazette III No. 122/2006, Appendix C - Regulations concerning the International Carriage of Dangerous Goods by Rail (RID), in the version of Federal Law Gazette III No. 107/2021

Waterways:
European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN), Federal Law Gazette III No. 67/2008, in the version of Federal Law Gazette III No. 32/2021

Transport by sea:
Federal Law Gazette No. 387/1996 with IMDG Code, Amendment 40-20

Civil Aviation:
Federal Law Gazette No. 97/1949 with ICAO-TI, Edition 2021-2022

in connection with:

Accreditation of the Austrian Institute for Packaging (ÖIV) as Testing Laboratory (the Testing Laboratory was accredited according to ISO/IEC 17025 as Testing Laboratory with the ID-number 0013 for the first time at 1st December 1995 with Zl. 92714/501-IX/2/95 by Akkreditierung Austria / Federal Ministry for Digital and Economic Affairs for the scopes named in the notification and published under akkreditierung-austria.gv.at)

Notification of the Republic of Austria, Federal Ministry for Transport, Section IV, concerning the allocation of a short marking to identify packagings which have been tested by the ÖIV in accordance with Federal Law Gazette No. 143/1981 (Notification of 1981-09-21, Zl. 75.170/1-IV/6-81)

2 Applicant

Mondi Wellpappe Ansbach GmbH
Corrugated Packaging

Robert-Bosch-Straße 3
D 91522 Ansbach

3 Packaging Manufacturer

Identical to applicant

4 Description of the Packaging Design

Folding boxes made of double wall corrugated fibreboard (sort "Concor 69800" composition according to the packaging manufacturer 400 KLB/160 WB/280 TL/160 WB/400 KLB, flutes CA) with outer bottom and top flaps meeting; alternative broad sides with offset crease lines;
Manufactured with a stiched and glued joint;
Box closure: double-L-closure with glass-fibre reinforced self-adhesive plastics tape (75 mm wide); the box is additionally strapped with two bands made of plastics "PET 1238" or equivalent parallel to the broad side edges;
Nominal inside dimensions: 570 x 370 x 430 mm (L x B x H);
Outside dimensions: 590 x 390 x 470 mm (L x B x H);

4.1 Packaging design "90/70 - 8126 - 4GV"

In the box a bag made of plastics (foil-thickness min. 100 µm), filled with absorbent material "Vermiculite" and leakproof sealed;
The thickness of cushioning material between inner packagings and between inner packagings and the outside of the packaging shall not be reduced below the corresponding thicknesses in the tested packaging according to our Test Report Nr. 9006/2/22;
Maximum gross mass of the filled and sealed package: 55 kg;

Original filling material: articles or inner packagings of any type for solids or liquids;
For the tests glass bottles as inner packagings filled with water and lead shot were used.

4.2 Packaging design "90/70 - 8126 - 4G"

Maximum gross mass of the filled and sealed package:

- use for packaging groups I, II and III: 70 kg;
- use for packaging groups II and III: 75 kg;
- use for packaging group III: 90 kg;

Original filling material: solids/articles, maybe inner packagings;
For the tests plastic granulate - packaging group I - and plastic granulate with inserted metal parts (to increase the gross mass) - packaging group III - was used.

5 Requirements for the Packaging Designs

The packaging designs must be in conformity with the design type which was tested according to the below-mentioned Test Report for a type of packaging **4GV or 4G** ("Fibreboard Boxes") in accordance with chapter 6.1, requirements for the construction and testing of packagings of Annex A to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

Similar regulations are in force for the transport by train (RID), by ship (IMDG Code) and by plane (ICAO-TI/IATA-DGR), whereby the test requirements regarding the packagings for carrying dangerous goods by the various transport operators have been largely harmonised, because of the acceptance of the UN-Recommendations ("Orange book", Recommendations prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods, 21st revised edition, 2019).

The present Licence is based on the results of our Test Report:

Test Report No.:	Date:	Testing House:
9006/2/22	2022-06-10	Österreichisches Institut für Verpackungswesen

6 Manufacturing of the Packagings

Packagings of this licensed designs may be mass-produced. By affixing the mark it is certified that mass-produced packagings meet all the requirements of the licensed packaging designs and that all conditions and supports listed in this Licence are fulfilled.

7 Marking

Packagings, when mass-produced in accordance with the tested designs, must be durable, legible and readily visible marked as follows:

4GV/X55/S/..*)
A/PA-02/9006

and/or

4G/X70/S/..*)
A/PA-02/9006

and/or

4G/Y75/S/..*)
A/PA-02/9006

and/or

4G/Z90/S/..*)
A/PA-02/9006

*) the last two digits of the year of production of the packaging

Letters, numerals and symbols shall be at least 12 mm high, except for packagings of 30 l capacity or less or of 30 kg maximum net mass, when they shall at least be 6 mm in height and except for packaging of 5 l capacity or less of of 5 kg maximum net mass when they shall be of an appropriate size.

8 Conditions for the Use of the Packagings

8.1 Packagings, mass-produced in accordance with the licensed packaging designs and marked according to point 7 may be used for dangerous goods if such packagings are permitted by the regulations of the various transport operators. If used for transportation by ship, suitable qualities of papers for liners and flutes should be used and the glue of the corrugated board should be wet strength.

8.2 According to the capability of the packagings, dangerous goods to be transported must be classified in the corresponding packaging groups based on the maximum gross mass.

8.3 The total combined gross mass of the inner packagings of packaging design "4GV" must not exceed 43.2 kg.

8.4 The gross mass of the packages must not exceed the values stated in point 4.

8.5 The thickness of cushioning material between inner packagings and between inner packagings and the outside of the packaging shall not be reduced below the corresponding thickness in the originally tested packaging. When fewer or smaller inner packagings are used (as compared to the inner packagings used in the drop test) sufficient additional cushioning material shall be used to take up void spaces.

8.6 Inner packagings containing liquids shall be completely surrounded with a sufficient quantity of absorbent material to absorb the entire liquid contents of the inner packagings.

8.7 In addition to the UN-Marking specified in point 7 the packagings have to bear other prescribed markings, symbols and dangerous goods labels.

8.8 Those parts of packagings which are in direct contact with dangerous substances shall not be affected by chemical or by other action of those substances. If necessary, they shall be provided with a suitable inner coating or treatment. Such parts of packagings shall not incorporate constituents liable to react dangerously with the contents so as to form hazardous products, or to weaken them significantly.

8.9 The applicant/manufacturer named in point 2/3 must be able to prove that all conditions concerning the usage of these packagings are well known to everybody who uses/fills these packagings for/with dangerous goods.

8.10 Direction is made to the necessary approval and supervision of the quality assurance programme according to the "BAM – Gefahrgutregeln (BAM-GGR), BAM-GGR 001, Verfahren der Qualitätssicherung bei der Herstellung und Überwachung von Verpackungen, Großverpackungen und Großpackmitteln (IBC) für den Transport gefährlicher Güter".

8.11 The content of the boxes of the design "4G" may be solids or inner packagings, i.e. combination packagings. In this case the packer/shipper must be able to prove (e.g. by additional drop tests or considering paragraph 4.1.1.5.1, ADR, respectively IMDG-Code) that filled packages can meet the same requirements as the tested packaging design.

9 Others

The packaging designs are in accordance with the test requirements for packagings for the carriage of dangerous goods as stated in the international agreements for traffic by road (ADR), rail (RID), sea (IMDG Code) and air (ICAO-TI/IATA-DGR). This also covers the test requirements laid down in the Recommendations of the United Nations (UN).

This Licence is given but may be revoked at any time.

10 Licence

The packaging designs as prescribed in point 4 are licensed under the condition that the requirements of point 5 - 8 are fulfilled.

ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN

ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN *

Dipl.-Ing. (FH) M. Auer, Msc
Head of Institute

Barbara Zottl, MSc
Executive Officer

This Licence No. 9006 consists of 8 pages.

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Österreichisches Institut für Verpackungswesen

Akkreditierung Austria
0013
ISO/IEC 17025

TEST REPORT

No. 9006/2/22

Mondi Wellpappe Ansbach GmbH
Corrugated Packaging

Robert-Bosch-Straße 3
D 91522 Ansbach

1 Submitted Samples

1.1 Applicant

Mondi Wellpappe Ansbach GmbH
Corrugated Packaging

Robert-Bosch-Straße 3
D 91522 Ansbach

1.2 Packaging Manufacturer

Identical to applicant

1.3 Description of the Packaging

Folding boxes made of double wall corrugated fibreboard (sort "Concor 69800" composition according to the packaging manufacturer 400 KLB/160 WB/280 TL/160 WB/400 KLB, flutes CA) with outer bottom and top flaps meeting; alternative broad sides with offset crease lines;
Manufactured with a stiched and glued joint;
Box closure: double-L-closure with glass-fibre reinforced self-adhesive plastics tape (75 mm wide); the box is additionally strapped with two bands made of plastics "PET 1238" parallel to the broad side edges;
Nominal inside dimensions: 570 x 370 x 430 mm (L x B x H);
Outside dimensions: 590 x 390 x 470 mm (L x B x H);

1.3.1 Packaging design "90/70 - 8126 - 4GV"

In the box a bag made of plastics (foil-thickness min. 100 µm), filled with absorbent material "Vermiculite" and leakproof sealed;
Inner Packagings: 3 layers each 36 100-ml-glass bottles (outside diameter: 56 mm; height <incl. closure>: 103 mm; gross mass: 800 g) with plastic screw closures were used for the drop tests; see attached packaging layout;

Maximum gross mass of the filled and sealed package: 99.8 kg;

Original filling material: articles or inner packagings of any type for solids or liquids;
For the tests glass bottles as inner packagings filled with water and lead shot were used.

1.3.2 Packaging design "90/70 - 8126 - 4G"

Maximum gross mass of the filled and sealed package:
- use for packaging groups I, II and III: 70 kg;
- use for packaging groups II and III: 75 kg;
- use for packaging group III: 90 kg;

Original filling material: solids/articles, maybe inner packagings;
For the tests plastic granulate - packaging group I - and plastic granulate with inserted metal parts (to increase the gross mass) - packaging group III - was used.

The use of other packaging methods or components may render this Test Report invalid.

2 Requested Investigations

In accordance with the requirements for the construction and testing of packagings of chapter 6.1, laid down in Annex A of the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), each packaging, except the inner packagings of combination packagings, must conform with a packaging design that has been tested and licensed in accordance with the regulations of chapter 6.1 of the above named Annex.

Similar regulations are in force for the transport by train (RID), by ship (IMDG Code) and by plane (ICAO-TI/IATA-DGR), whereby the test requirements regarding the packagings for carrying dangerous goods by the various transport operators have been largely harmonised, because of the acceptance of the UN-Recommendations ("Orange book", Recommendations prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods, 21st revised edition, 2019).

The submitted samples should be tested according to chapter 6.1, requirements for the construction and testing of packagings, for a type of packaging **4GV or 4G** ("Fibreboard Boxes") for different Packaging Groups based on the maximum gross mass.

Additionally the outer cover (top surface) of the corrugated fibreboard should be tested in the respect whether it complies concerning its water absorptiveness with the requirements of subsection 6.1.4.12 of Annex A of the Agreement concerning the International Carriage of Dangerous Goods by Road.

3 Investigations Carried out - Results of Investigations

Receipt of test samples: 2022-03-29
Test samples were provided by the applicant;

The air-conditioning of the test samples was made under the standard climate condition 23 °C/ 50 % relative humidity till the achievement of constant weight. The tests were carried out under the same climatic conditions.

3.1 Test of Packaging Material

3.1.1 Determination of water absorptiveness - Cobb-Test

The test was carried out in accordance with ÖNORM EN ISO 535 (see also ISO-Standard 535:1991), with an exposure time of 30 minutes; the test was carried out only on the outer cover (top surface) of the corrugated fibreboard.

As arithmetical mean of five tests (see also attached printout) for the water absorptiveness **89.0 g/m²** was determined.

Date of test: 2022-04-21

3.2 Packaging Tests

The tests were carried out in accordance with the instructions of the ADR (as described in section 6.1.5, Test provisions for packagings).

3.2.1 Drop Tests

The tests were done at Mondi Wellpappe Ansbach GmbH, Abteilung QS, Robert-Bosch-Str. 3, D 91522 Ansbach, recognized test house by BAM, Bundesanstalt für Materialforschung und -prüfung, in the presence of the Investigator.

The drop of the packages was done by means of an electro-pneumatic hook, where a belt was used for hanging up/positioning the samples. The impact target was a steel plate. Testes performed on samples with broad sides with offset crease lines;

3.2.1.1 Packaging design "90/70 - 8126 – 4GV"

The drop height was (according to the required packaging groups) **1.8 m**

None of the tested samples was leaking or showed any appreciable damage after the tests. The inner packagings were leakproof.

Date of tests: 2022-03-08 and 2022-03-09

3.2.1.2 Packaging design "90/70 - 8126 - 4G"

The drop height was (according to the required packaging groups)**:**
-1.8 m for a maximum gross mass of **70 kg**
-0.8 m for a maximum gross mass of **90 kg**

None of the tested samples was leaking or showed any appreciable damage after the tests.

Date of tests: 2022-03-08

3.2.2 Stacking Tests

The tests were carried out with an electronically material testing machine supplied by Comp. Zwick, type BX1-FR050TH.A1K-002.

The empty outer packagings samples were subjected to a force applied to the top surface of the test samples equivalent to the total weight of identical filled packages, which might be stacked on it, up to a height of 3 metres (including test sample) considering the maximum gross mass of 99.8 kg. The tests were done in load direction side 1 - side 3 (identification of sides according ÖNORM ISO 2206 "Packaging; complete, filled transport packages; identification of parts when testing", edition 1987; ident EN 22206:1992).
Duration of the test: 24 hours.

According to the above mentioned conditions a constant pressure load of **5280 Newton** was applied to the samples.

None of the samples tested showed any considerable damage. During and after the tests no deformation or other signs of early breakdown that could affect the strength of the cases or could cause an instability of the stack were detected.

Date of test: 2022-06-03 to 2022-06-06

4 Conformity

The tested packagings are in compliance with chapter 6.1, requirements for the construction and testing of packagings of Annex A of the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN

ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN *

Dipl.-Ing. (FH) M. Auer, Msc
Head of Institute

Barbara Zottl, MSc
Executive Officer

Vienna, 2022-06-10

This Test Report No. 9006/2/22 consists of 7 pages, 1 page of printout, 3 drawings and 1 data sheet (drawings and data sheet provided by the applicant).

Determination of water absorptiveness
Cobb-Test
ÖNORM EN ISO 535

Time of test 1800 s (30 min)

Sample:

Client	:	Mondi Wellpappe Ansbach GmbH
Sample identification	:	"Concor 69800"
Surface tested	:	outside
Packaging material	:	double wall corrugated fibreboard
Note	:	

Results:

Test piece	Dry mass (g)	Wet mass (g)	Difference (g)	Water absorptivness (g/m²)
1	28,6035	29,5038	0.9003	90.03
2	28,7927	29,6767	0.8840	88.40
3	28,7522	29,6340	0.8818	88.18
4	28,5297	29,4338	0.9041	90.41
5	28,6185	29,4949	0.8764	87.64

Statistics:

Min		87.64
Max		90.41
Mean		**89.0**
Standard dev. - SD		1.22
Coeff. of variation (%)		1.37

Climatic conditions:

Pre-treatment	:	Conditioning according ISO 187 at 23/50, duration >24 h, no pre-desiccation
Conditions for testing	:	23 °C / 50 %r.H.

Test parameters:

Test device	:	Analytic balance Sartorius BP211-OCE
Test area	:	100 cm²
Water volume	:	100 ml
Water temperature	:	23 °C

Description:

Water absorptiveness (Cobb-Value): The calculated mass of water absorbed in a specified time by 1 m² of paper or board under specified conditions.

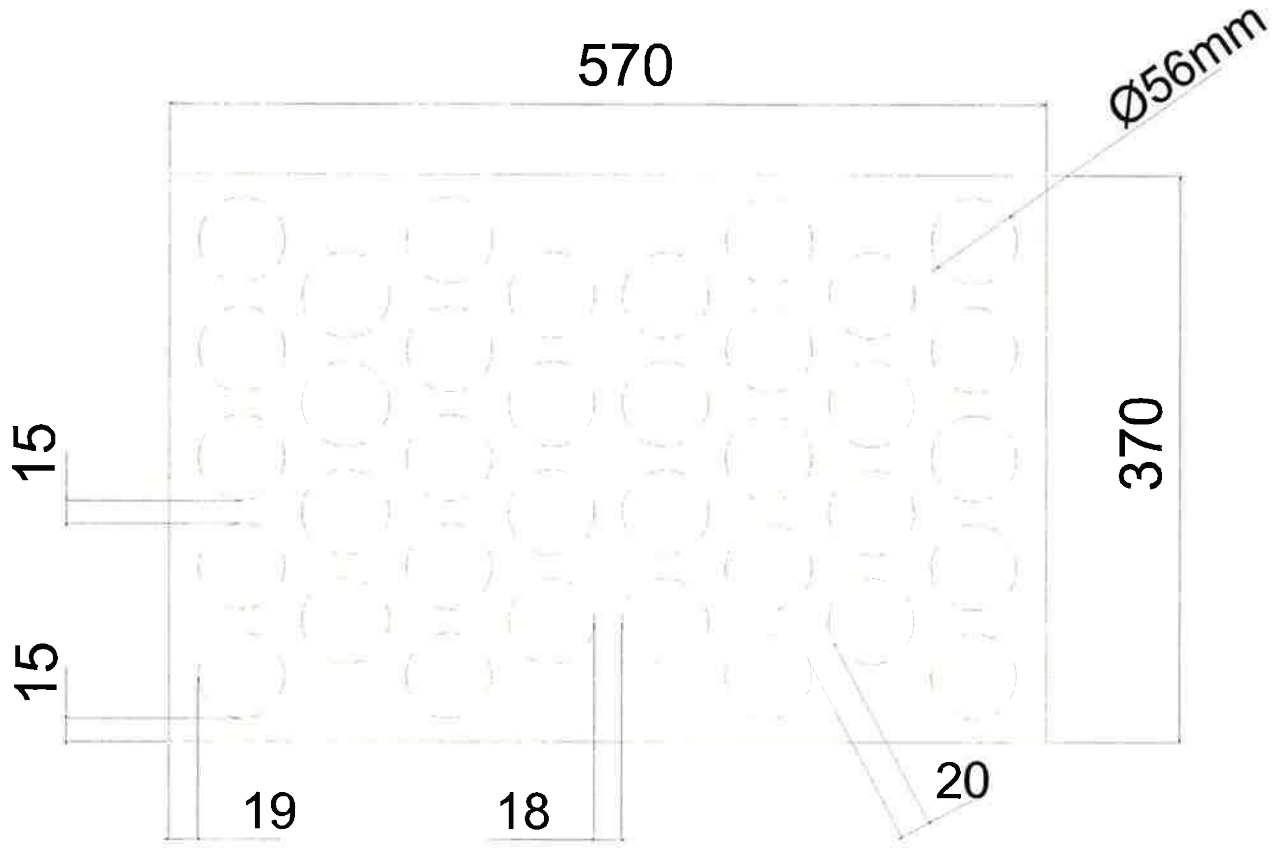
A test piece is weighted immediately before and immediately after exposure for a specified time of one surface to water, followed by plotting. The result of the increase in mass is expressed in grams per square meter (g/m²).

ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN

Investigator: Arik Stangl
Vienna, 21.04.2022

Bauart 90/70

570x370x430 mm



108 x 100 ml (800g) = 86,4kg

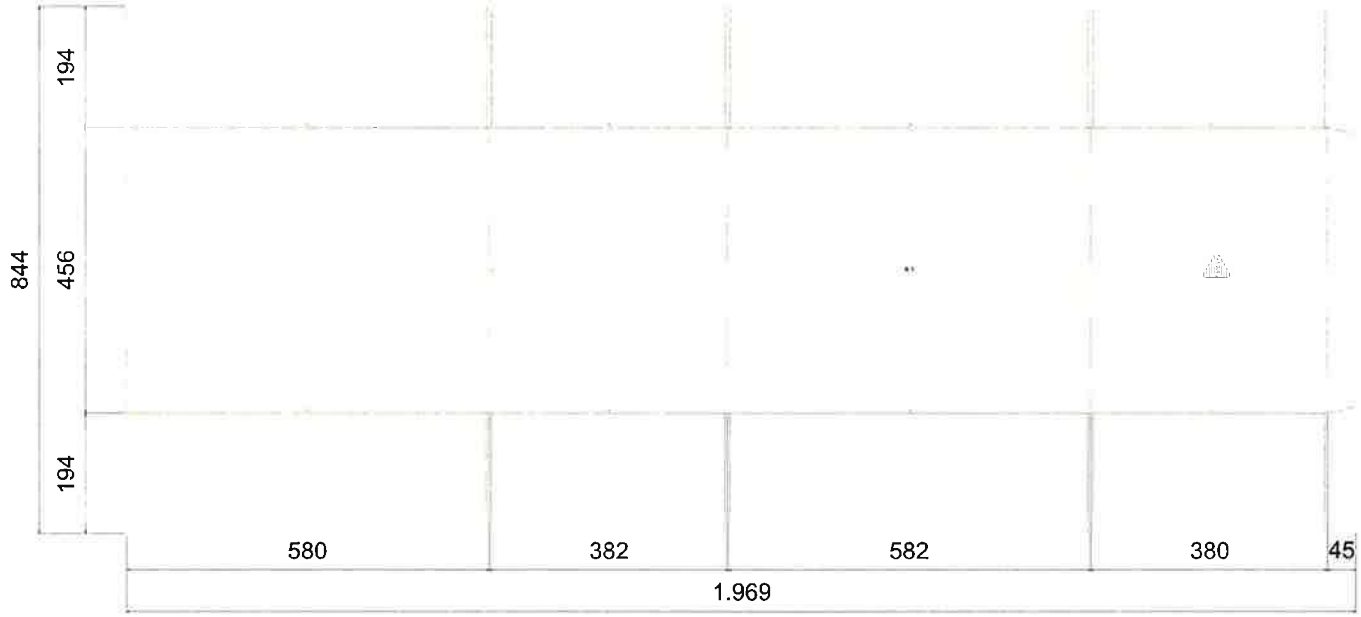
Die Abstandsmaße sind gerundet

Zeichnungsnr.	Projekt-Nr.	Revision:	Kunde:	Projektbeschreibung
P62019	**DED0-04012644**	**1**	**Mondi Wellpappe Ansbach GmbH**	Standard-GGV 90/70

Revision bearbeitet am / Name / Von	Sorte	Teilebeschreibung
13.05.2022	Concor 69800, CA-Welle	

Angelegt am	Innenmaße LxBxH	
12.05.2022	570 x 370 x 430 mm	P62019
Produktionsinfos		**Teile/Garn.:**

Prüfnummer 8126



Zeichnung zeigt Innenansicht

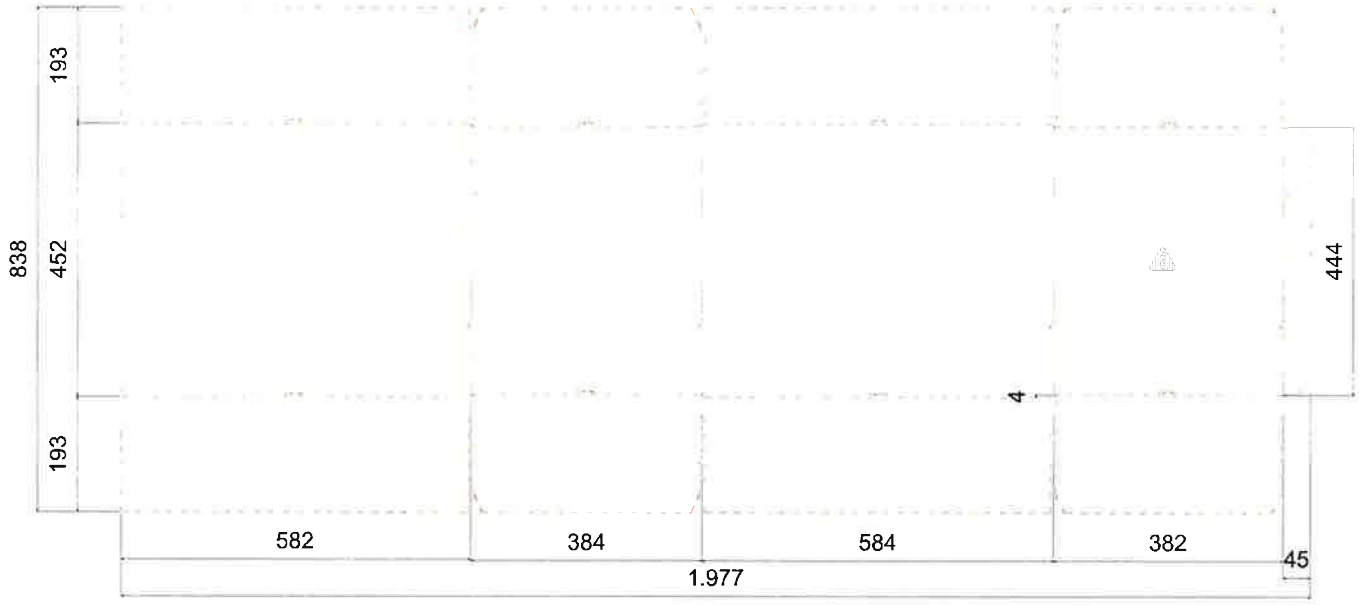
Kommentar Revision Nr. 1

Zeichnungsnr.	Projekt-Nr.	Revision:	Kunde:	Projektbeschreibung
M60837	DED0-04010512	**2**	**Mondi Wellpappe Ansbach GmbH**	GGV-Standard (versetzte Riller)

Revision bearbeitet am	Name / Von	Sorte	Teilebeschreibung
12.05.2022		Concor 69800, CA-Welle	GGV 90/70

Angelegt am	Innenmaße LxBxH	
11.12.2020	570 x 370 x 430mm	GGV 90/70
Produktionsinfos		**Teile/Garn.: 1**

Prüfnummer 8126



Zeichnung zeigt Innenansicht

Kommentar Revision Nr. 2

CYKLOP INTERNATIONAL THE STRAPPING COMPANY

PET-Band Premium
PET-Strap Premium

Technisches Datenblatt
Product information

Bandbezeichnung *Strap designation*	PET 1238
Farbe *Colour*	Grün *green*
Bandoberfläche *Strap surface*	Geprägt *embossed*
Abmessungen / Bandwerte *Strap dimensions / Technical properties*	
Breite *Width*	12,5 mm +/- 0,3 mm
Dicke über Spitzen *Thickness after embossing*	0,58 mm +/- 0,02 mm
Bruchlast *Break load*	Ca. 3.500 N
Bruchdehnung (min./ max.) *Elongation at break (min./ max.)*	8 % - 14 %
Kantenbruchlast *Corner breaking load*	Ca. 2.800 N
Zugfestigkeit *Tensile strength*	Ca. 560 N/mm²
Gewicht der Rolle *Weight of coil*	21,6 Kg
Außendurchmesser Rolle *Coil outside diameter*	590 mm
Innendurchmesser Kern *Core inside diameter*	406,5 mm
Breite Kern *Core width*	150 mm
Lauflänge Rolle *Length per coil*	2.500 m +/- 2 %

Verpackungseinheit
Packing unit

Verpackungseinheit *Packing unit*	Paletteneinheit *Pallet unit*	Palettenabmessung *Pallet dimensions*
Rollen ohne Karton *Coils without boxes*	**48 Rollen pro Palette** *48 Coils per pallet*	1.200 x 1.200 mm
1 Rolle pro Karton *1 Coil per box*	**40 Kartons pro Palette** *40 Boxes per pallet*	1.200 x 1.230 mm
1 Rolle pro Karton *1 Coil per box*	**20 Kartons pro Palette** *20 Boxes per pallet*	800 x 1.200 mm

Zertifiziert nach DIN EN ISO 9001:2008 & DIN EN ISO 50001:2011

Certified to DIN EN ISO 9001:2008 & DIN EN ISO 50001:2011

QM 2016, Rev. 2